

CLAIMS

WE CLAIM:

1. An isolated nucleic acid molecule comprising a nucleotide sequence or its complement, the nucleotide sequence is identical to at least twenty-five continuous nucleotides contained in DNA sequences selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:251 and SEQ ID NO:254.
2. A recombinant nucleic acid construction comprising the isolated nucleic acid molecule of Claim 1.
3. A host cell comprising the recombinant nucleic acid construction of Claim 2.
4. A method for distinguishing *E. coli* bacteria of strain CFT073 from strain K-12 comprising analyzing the genome of the bacteria for the presence of any DNA sequence claimed in Claim 1.
5. A method for detecting *E. coli* CFT073 in a sample comprising the steps of:
  - a) providing an *E. coli* CFT073-specific nucleotide probe, the probe comprising a sequence or its complement, the sequence is selected from the group consisting of SEQ ID NO:1 through SEQ ID NO:251 and SEQ ID NO:254;
  - b) contacting the probe with a sample of test material under suitable hybridization conditions; and
  - c) detecting hybridization of the probe to a complementary nucleotide sequence in the sample.
6. An isolated nucleic acid molecule comprising a nucleotide sequence or its complement, the nucleotide sequence is selected from the group consisting of the complementary sequence between nucleotide 1008 and nucleotide 1885 of SEQ ID NO:85, the complementary sequence between nucleotide 1996 and nucleotide 5607 of SEQ ID NO:85, the sequence between nucleotide 12003 and nucleotide 20509 of SEQ ID NO:251, the sequence between nucleotide 40329 and nucleotide 44950 of SEQ ID NO:251, and the sequence between nucleotide 31940 and nucleotide 34668 of SEQ ID NO:254.

7. A recombinant nucleic acid construction comprising the isolated nucleic acid molecule of Claim 6.

8. A host cell comprising the recombinant nucleic acid construction of Claim 7.

9. An isolated polypeptide comprising an amino acid sequence encoded by a DNA sequence selected from the group consisting of the complementary sequence between nucleotide 1008 and nucleotide 1885 of SEQ ID NO:85, the complementary sequence between nucleotide 1996 and nucleotide 5607 of SEQ ID NO:85, the sequence between nucleotide 12003 and nucleotide 20509 of SEQ ID NO:251, the sequence between nucleotide 40329 and nucleotide 44950 of SEQ ID NO:251, and the sequence between nucleotide 31940 and nucleotide 34668 of SEQ ID NO:254.

10. An isolated polypeptide comprising an immunogenic fragment of an amino acid sequence encoded by a DNA sequence selected from the group consisting of the complementary sequence between nucleotide 1008 and nucleotide 1885 of SEQ ID NO:85, the complementary sequence between nucleotide 1996 and nucleotide 5607 of SEQ ID NO:85, the sequence between nucleotide 12003 and nucleotide 20509 of SEQ ID NO:251, the sequence between nucleotide 40329 and nucleotide 44950 of SEQ ID NO:251, and the sequence between nucleotide 31940 and nucleotide 34668 of SEQ ID NO:254.

11. An antibody that specifically binds to the polypeptide of Claim 9.